

UNITED STATES PATENT OFFICE.

MARIA E. BEASLEY, JOHN GEORGE REHFUSS, AND GEORGE M. NEWHALL,
OF PHILADELPHIA, PENNSYLVANIA, ASSIGNORS TO THE AMERICAN
BARREL AND STAVE COMPANY, OF CAMDEN, NEW JERSEY.

BARREL-SETTING-UP MACHINE.

SPECIFICATION forming part of Letters Patent No. 393,683, dated November 27, 1888.

Application filed March 19, 1888. Serial No. 267,709. (No model.)

To all whom it may concern:

Be it known that we, MARIA E. BEASLEY, JOHN GEORGE REHFUSS, and GEORGE M. NEWHALL, all citizens of the United States, and residents of Philadelphia, Pennsylvania, have invented certain Improvements in Barrel-Setting-Up Machines, of which the following is a specification.

Our invention consists of certain improvements in the barrel-making or barrel-setting-up machinery for which application for Letters Patent was filed on the 24th day of January, 1887, Serial No. 225,328; and our present improvements comprise certain mechanism for allowing the free rotation of the staves in the heads, mechanism for automatically locking the stave-receiving heads in place and releasing them at the proper moment, mechanism for forcing the hoops upon the barrel, and devices for delivering the barrel when completed.

In the accompanying drawings, Figure 1 is a longitudinal section of sufficient of a barrel-setting-up machine to illustrate our invention. Fig. 2 is a transverse section on the line 1 2, Fig. 1. Fig. 3 is a plan view. Fig. 4 is an enlarged sectional view of part of one of the stave-receiving heads, and Figs. 5 and 6 are detached perspective views of parts of the machine.

We will not describe in detail the construction of the machine shown, and we have also omitted from the drawings a number of the details of the driving-gear, which are fully shown in the aforesaid application.

The fixed frame of the machine consists of two end frames, A, secured together by longitudinal bolts or rods B B' B²—three in the present instance.

C C are the stave-receiving heads, pivoted to brackets on the rods B' B², and D D are the hoop-driving heads, each actuated by a screw similar to that shown in the above-mentioned application, the head having a nut to which the screw is adapted, and said screw being driven in one direction to advance the head and in the opposite direction to retract it. Each head C has an annular groove, c, into which the staves are inserted from the feed-way E, and in each groove c is a loose ring, 2, (shown in Fig. 4,) and back of this ring are a

series of anti-friction rollers, 3, mounted on suitable pins, 4. The ring is held in place by a second ring, 5, which overlaps the ring 2, and is secured to the permanent part of the head C by means of screws or bolts 6, which pass through and carry anti-friction rollers 7, the latter serving to support and prevent lateral play of the ring, so that it is kept at all times in a position concentric with the axis of the head.

When the staves are fed into the grooves c, their ends bear against the rings 2 in the grooves, so that the pressure is transmitted to the rings, and said rings move with the staves as the latter are fed around the heads, thus materially reducing the power necessary to feed the staves around the heads, owing to the anti-friction bearings of the rings 2. Friction-rollers alone may be used, against which the ends of the staves may bear, but these would have to be placed very close together; hence we prefer in all cases to use the ring 2.

The stave-receiving heads C have a central opening, F, and connected to a flange, f, around each opening is a pipe, G, which communicates with an exhaust-pipe, H, so that a partial vacuum may be maintained in the pipes G.

As shown by dotted lines in Fig. 4, the heads I of the barrel are placed in position on the rings 5 of the stave-receiving heads C, so that the partial vacuum created within the rings will serve to hold the heads of the barrel in position upon the stave-receiving heads while the staves are being fed around the same, pins 4, Fig. 4, preventing the heads I from turning. This special construction is shown and described more fully, and is claimed, in an application for a patent filed March 12, 1888, Serial No. 267,010.

We have found that owing to the difference in the force exerted upon the barrel by the opposite hoop-drivers when driving on the hoops a spring for holding the two stave-receiving heads together is not practicable at all times. For instance, if a barrel happens to be a trifle larger at one end than the other the hoop-drivers meet with more resistance at said larger end and consequently the barrel will be forced longitudinally by said drivers, the spring will